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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,822	09/16/2003	Frank G. Hughes	08350.0676	1099
22852	7590	08/24/2005	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			CHANG, CHING	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/662,822	<b>Applicant(s)</b> HUGHES ET AL.	
	<b>Examiner</b> Ching Chang	<b>Art Unit</b> 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,9,11,13,15,16,18 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,11,13,15,16,18 and 21-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Office Action is in response to the amendment filed on 06/17/2005. Claims 2, 4, 6, 8, 10, 12, 14, 17, 19, and 20 are canceled, and new claims 21-27 are added as requested.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More specifically, “ to align the rocker shaft assembly with the pedestal ” in claims 21, 24, and 27, and “ to but a bottom surface of a rocker arm ” in claim 22 and 25 are new matter.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. ***Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kronich (US Patent 4,856,467).***

Kronich discloses a cylinder head (12) for an internal combustion engine, the cylinder head comprising: a top deck (See Fig. 1); and at least one integrally cast rocker shaft pedestal (88) including a top surface, wherein the top deck is machined in a same plane as the top surface of the at least one rocker shaft pedestal.

↑  
product by process

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. ***Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine (US Patent 4,819,591) in view of Kronich (US Patent 4,856,467).***

Valentine discloses a cylinder head (1) for an internal combustion engine, the cylinder head comprising a top deck and at least one integrally cast rocker shaft Pedestal (25, 26, 27, and 28), in which the at least one integrally cast rocker shaft pedestal includes a top surface.

Valentine discloses the invention as recited above, however, fails to disclose the top deck is in a same plane as the top surface of the at least one rocker shaft pedestal.

The patent to Kronich on the other hand, teaches that it is conventional in the engine valve train art, to utilize a cylinder head (12) having a top deck in a same plane as the top surface of a rocker shaft pedestal (88).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized of the configuration of having the top deck of a cylinder head in the same plane as the top surface of a rocker shaft pedestal, as taught by Kronich in the Valentine device, since the use thereof would provide a cost effective and easier assembly cylinder head.

**7. Claims 3, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Kronich (as applied to claim 1 above), and further in view of Sweetland et al. (US Patent 5,636,600).**

The modified Valentine device discloses the invention as recited above, however, fails to disclose the at least one rocker shaft pedestal including a pair of opposed sidewalls adapted for correctly spacing adjacent rocker arms on each side of the pedestal.

The patent to Sweetland on the other hand, teaches that it is conventional in the engine rocker assembly art, to utilize a rocker shaft pedestal (22, 36, 38) including a pair of opposed sidewalls, each sidewalls having a spacing step (See Figs. 3-6) are adapted for correctly spacing adjacent rocker arms on each side of the pedestal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the rocker shaft pedestal as taught by Sweetland in

the modified Valentine device, since the use thereof would provide a more compact and easier assembled cylinder head.

**8. Claims 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Kronich, and further in view of Sweetland (as applied to claims 5 and 7 above), and further in view of Brown (US Patent 3,964,455)**

The modified Valentine discloses the invention, however, fails to disclose each side wall including a second step formed beneath the spacing step.

The patent to Brown on the other hand, teaches that it is conventional in the engine valve control mechanism art, to utilize a rocker shaft pedestal (44) having side walls, each side wall including a second step formed beneath a spacing step.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the structural configuration of the rocker shaft pedestal, having a second step formed beneath the spacing step as taught by Brown in the modified Valentine device, since the use thereof would provide an improved cylinder head, to avoid an interference with a rocker arm movement.

**9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine (US Patent 4,819,591) in view of Kronich (US Patent 4,856,467), and further in view of Caya et al. (US Patent 5,645,025).**

Valentine discloses an internal combustion engine comprising: a cylinder block; a cylinder head having a top deck and at least one integrally cast rocker shaft

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pedestal (25, 26, 27, and 28) including a top surface; and a rocker shaft having a plurality of rocker arms (44, 45) mounted thereon

Valentine discloses the invention as recited above, however, fails to disclose the top deck being in a same plane as the top surface of the at least one rocker shaft pedestal.

The patent to Kronich on the other hand, teaches that it is conventional in the engine valve train art, to utilize a cylinder head (12) having a top deck in a same plane as the top surface of a rocker shaft pedestal (88).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized of the configuration of having the top deck of a cylinder head in the same plane as the top surface of a rocker shaft pedestal, as taught by Kronich in the Valentine device, since the use thereof would provide a cost effective and easier assembly cylinder head.

The modified Valentine device, however, fails to disclose the rocker shaft including at least one flat formed on an underside of the shaft adapted for mating with a top surface of the at least one rocker shaft pedestal.

The patent to Caya on the other hand, teaches that it is conventional in the engine art, to have utilized a flat mating between a rocker arm support shaft (58) and a rocker shaft pedestal (24) (See Figs. 1 and 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the the flat mating between the rocker shaft pedestal and the support shaft as taught by Caya in the modified Valentine device,

since the use thereof would provide a more compact and cost effective engine cylinder head to accommodate a rocker arm assembly for an engine.

**10. *Claims 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Kronich, and further in view of Caya (as applied to claim 13 above), and further in view of Sweetland et al. (US Patent 5,636,600).***

The modified Valentine device discloses the invention, however, fails to disclose the at least one rocker shaft pedestal including a pair of opposed sidewalls adapted for correctly spacing adjacent rocker arms on each side of the pedestal.

The patent to Sweetland on the other hand, teaches that it is conventional in the engine rocker assembly art, to utilize a rocker shaft pedestal (22, 36, 38) including a pair of opposed sidewalls, each sidewalls having a spacing step (See Figs. 3-6) are adapted for correctly spacing adjacent rocker arms on each side of the pedestal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the rocker shaft pedestal as taught by Sweetland in the modified Valentine device, since the use thereof would provide a more compact and easier assembled cylinder head for an engine.



**11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Kronich, further in view of Caya, and further in view of Sweetland (as applied to claim 16 above), and further in view of Brown (US Patent 3,964,455).**

The modified Valentine discloses the invention, however, fails to disclose each side wall including a second step formed beneath the spacing step.

The patent to Brown on the other hand, teaches that it is conventional in the engine valve control mechanism art, to utilize a rocker shaft pedestal (44) having side walls, each side wall including a second step formed beneath a spacing step.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the structural configuration of the rocker shaft pedestal, having a second step formed beneath the spacing step as taught by Brown in the modified Valentine device, since the use thereof would provide an improved cylinder head, to avoid an interference with a rocker arm movement in an assembled engine.

**12. Claims 21-22, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valetine (US Patent 4,819,591) in view of Sweetland et al. (US Patent 5,636,600), and further in view of Caya et al. (US Patent 5,645,025).**

Valentine discloses a cylinder head (1) for an internal combustion engine, the cylinder head comprising a top deck and at least one integrally cast rocker shaft pedestal (25, 26, 27, and 28), the pedestal comprising a top surface.

Valentine discloses the invention as recited above, however, fails to disclose the at least one rocker shaft pedestal including opposed outer side walls adapted to properly align the rocker shaft assembly with the pedestal.

The patent to Sweetland on the other hand, teaches that it is conventional in the engine rocker assembly art, to utilize a rocker shaft pedestal (22, 36, 38) including opposed outer side walls, each side wall having a spacing step extending outwardly (See Figs. 3-6) to properly align the rocker shaft assembly with the pedestal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the rocker shaft pedestal as taught by Sweetland in the modified Valentine device, since the use thereof would provide a more compact and easier assembled cylinder head.

The modified Valentine device, however, fails to disclose the rocker shaft assembly including a flat top surface of the at least one rocker shaft pedestal.

The patent to Caya on the other hand, teaches that it is conventional in the engine art, to have utilized a flat mating between a rocker arm support shaft (58) and a rocker shaft pedestal (24) (See Figs. 1 and 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the flat mating between the rocker shaft pedestal and the support shaft as taught by Caya in the modified Valentine device, since the use thereof would provide a more compact and cost effective engine cylinder head to accommodate a rocker arm assembly for an engine.

13. ***Claims 23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valetine in view of Sweetland, and further in view of Caya et al. (as applied to claims 22 and 25 above), and further in view of Brown (US Patent 3,964,455).***

The modified Valentine discloses the invention, however, fails to disclose a lower step extending outwardly from the pedestal, below the spacing step.

The patent to Brown on the other hand, teaches that it is conventional in the engine valve control mechanism art, to utilize a rocker shaft pedestal (44) having a lower step extending outwardly from the pedestal, below the spacing step.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the structural configuration of the rocker shaft pedestal, having a lower step extending outwardly from the pedestal, below the spacing step, as taught by Brown in the modified Valentine device, since the use thereof would provide an improved cylinder head, to avoid an interference with a rocker arm movement in an assembled engine.

14. ***Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine (US Patent 4,819,591) in view of Kronich (US Patent 4,856,467), further in view of Caya et al. (US Patent 5,645,025), and further in view of Sweetland et al. (US Patent 5,636,600).***

Valentine discloses a cylinder head (1) for an internal combustion engine, the cylinder head comprising a top deck and at least one integrally cast rocker shaft pedestal (25, 26, 27, and 28), the pedestal comprising a top surface.

Valentine discloses the invention as recited above, however, fails to disclose the top deck being in a same plane as the top surface of the at least one rocker shaft pedestal.

The patent to Kronich on the other hand, teaches that it is conventional in the engine valve train art, to utilize a cylinder head (12) having a top deck in a same plane as the top surface of a rocker shaft pedestal (88).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized of the configuration of having the top deck of a cylinder head in the same plane as the top surface of a rocker shaft pedestal, as taught by Kronich in the Valentine device, since the use thereof would provide a cost effective and easier assembly cylinder head.

The modified Valentine device, however, fails to disclose the rocker shaft assembly including a flat adapted to abut a flat top surface of the rocker shaft pedestal.

The patent to Caya on the other hand, teaches that it is conventional in the engine art, to have utilized a flat mating between a rocker arm assembly (58) and a rocker shaft pedestal (24) (See Figs. 1 and 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the the flat mating between the rocker shaft pedestal and the rocker shaft assembly as taught by Caya in the modified Valentine device, since the use thereof would provide a more compact and cost effective engine cylinder head to accommodate a rocker arm assembly for an engine.

Valentine discloses the invention as recited above, however, fails to disclose the at least one rocker shaft pedestal including opposed outer side walls adapted to properly align the rocker shaft assembly with the pedestal.

The patent to Sweetland on the other hand, teaches that it is conventional in the engine rocker assembly art, to utilize a rocker shaft pedestal (22, 36, 38) including opposed outer side walls, each side wall having a spacing step extending outwardly (See Figs. 3-6) to properly align the rocker shaft assembly with the pedestal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the rocker shaft pedestal as taught by Sweetland in the modified Valentine device, since the use thereof would provide a more compact and easier assembled cylinder head.

### ***Response to Arguments***

15. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

**16. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Ching Chang



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